



ENGINEERING
Professional Civil Engineer and Land Surveyor

September, 1 2009

Department of Public Works
County of San Diego
5555 Overland Avenue, Building #2
San Diego, CA, 92123

ATTEN: JOHN L. SNYDER, DIRECTOR

RE: TPM 21086 – AVAILABLE SIGHT DISTANCE

Mactan Road is a light collector street, and therefore according to Table 2 of the County of San Diego Public Roads Standards has a minimum design speed of 45 m.p.h. Per Table 5 of the Standards, the required sight distance is 450 feet. The posted speed limit for Mactan Road is 40 m.p.h. On July 28, 2009 a speed study was done for traffic on Mactan Road north and south of the intersection with Via Salvador. A copy of the results of this study are attached. The prevailing speed (85th percentile) southbound on Mactan Road north of Via Salvador was 31 mph. The prevailing speed (85th percentile) northbound on Mactan Road south of Via Salvador was 33 mph.

Sight Distance North

North of the intersection of Mactan Road and Via Salvador, the road is a 3% decline approaching the intersection. The available sight distance on Mactan Road approaching the intersection of the proposed pavement realignment of Via Salvador from the North is currently 210 feet due to an obstructing 5" diameter tree 5 feet off the pavement on Mactan Road, within the public ROW, 110 feet northerly of the proposed intersection. Without the tree obstructing the view, the sight distance is 230 feet, measured per requirements in Section 6.1.E of the County Public Road Standards. (See Figure 1.)



Figure 1: Mactan Road Looking N'ly from intersection.

Using the prevailing speed of 31 m.p.h, the AASHTO safe stopping sight distance is calculated to be 214 feet. This is based on the following:

$$SSD = 1.47 Vt + V^2 / 30(f \pm g)$$

Where:

SSD= safe stopping sight distance

V= speed =31 mph

t= perception-reaction time =2.5 sec

f= wet pavement friction =0.35

g=approach grade =+0.03

This is less than the unobstructed sight distance of 230 feet.

Sight Distance Southwest

Southwest of the intersection of Mactan Road and Via Salvador, the road is a 3% incline approaching the intersection. The available sight distance on Mactan Road approaching the intersection of the proposed pavement realignment of Via Salvador from the South is currently 270 feet due to a high point in Mactan Road about 200 feet from the intersection.

Using the prevailing speed of 33 m.p.h., the AASHTO safe stopping sight distance is 217 feet. This is based on the following:

$$SSD = 1.47 Vt + V^2 / 30(f \pm g)$$

Where:

SSD= safe stopping sight distance

V= speed =33 mph

t= perception-reaction time =2.5 sec

f= wet pavement friction =0.35

g=approach grade =-0.03

This is less than the available unobstructed sight distance of 270 feet, measured per requirements in Section 6.1.E of the County Public Road Standards (See Figure 2).



Figure 2: Mactan Road Looking S'ly from intersection.

See Sight Distance Exhibit "A" attached hereto.

Should you have any questions, please call.

September 1, 2009
Department of Public Works



Sincerely,

A handwritten signature in black ink, appearing to be "Michael L. Benesh". The signature is fluid and stylized, with a long horizontal stroke at the end.

Michael L. Benesh, RCE 37893
Reg. Exp. 03/11

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